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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.  | CONFIRMATION NO. |
|-----------------|-------------|----------------------|----------------------|------------------|
| 10/040,241      | 11/09/2001  | Heidi Munnelly       | 1217.013USU/KPG 1141 | 9269             |

7590 05/07/2003

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| EXAMINER |
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| ART UNIT | PAPER NUMBER |
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1752

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/040,241

Applicant(s)

MUNNELLY ET AL

Examiner

Cynthia Hamilton

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 2/5/03, 2/25/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 15-21 and 40-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 22-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-45 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's election with traverse of Group I, claims 1-14 and 22-39 in Paper No. 8 is acknowledged. The traversal is on the ground(s) that (1) there is no serious burden placed upon the examiner in searching both groups because both groups are in the same class and (2) no additional search burden exists to examine both group I claims and Group II claims. This is not found persuasive because there is an additional search burden as set forth by the examiner. The search for the compositions and elements of Group I encompasses a minimum of subclasses 281.1, 287.1, 286.1, and 273.1. in class 430. The search for Group II requires a minimum search of subclass 302 in class 430. Neither search overlaps the other. Subclass 302 has 1752 U.S. patent documents. Subclasses 281.1, 287.1, 286.1, and 273.1 have a combination of 2564 U.S. patent documents without duplication of documents. Between the search for Group I and Group II there is only an overlap of 193 documents according to the East database used by the USPTO for searching purposes. The examiner states this to support her position that a serious burden exists. This does not even take into consideration that the minimal search does not encompass where the urethane acrylates or polyester acrylates would be found in class 430. While these are not claimed, they are used as the ethylenically unsaturated component of the examples set forth in the specification. The examiner notes that a search of the foreign documents is even a further consideration that splits along process and composition lines.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 15-21 and 40-45 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8.

Art Unit: 1752

3. Claims 1-14 and 22-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The examiner notes that in claims 1-14 and 22-39 applicants require the presence of a polymeric binder "with the proviso that the total acid number of said polymeric binder is" a particular number mg KOH/g or less. The compositions and printing plates claimed are "comprised" of this polymeric binder. Thus, the compositions and printing plates are open to the addition of any other component unless the specification clearly excludes that component from the entire scope of that claimed. Thus, if there is a polymeric binder then there could be another polymer present or even a second polymeric binder unless the specification clearly excludes such by definition in the specification. The examiner notes that "total acid number" is directed to the "polymeric binder" and not the composition as a whole. In reviewing the specification, the examiner believes it is not clear what is encompassed by the use of "total" in "total acid number". In reading the claim only, the examiner believes that other binders are not excluded by the compositions and plates described and that "total acid number" refers only to the "polymeric binder" as set forth. Upon reading the entire specification, the examiner notes that on page 13 applicants state "Basically all polymers or polymer mixtures known in the art can be used as polymeric binders" (lines 20-21) and in the paragraph bridging pages 13-14, "To achieve good image integrity without a post-exposure bake, it is preferred that the polymer used has an acid number of 70 mg KOH/g or less. When polymer mixtures are used, the arithmetic average of the individual acid numbers must be 70 mg KOH/g or

less. Preferably, the total acid number of the polymeric binder is 50 mg KOH/g or less."

The next paragraph has "The composition can further include additional polymers and copolymers. However, in all cases, the total acid number must remain 70 mg KOH/g or less." The examiner notes that there is no description as to what is a polymeric binder and what is not with regard to polymers in general. There is no explanation if the "total acid number" that must remain 70 mg KOH/g or less is the acid number for the composition, all polymers, inclusive of any ethylenically unsaturated ones or ones used to disperse pigments or as fillers, etc or just for one polymeric binder. It is not clear if this "must" pertains only to the preferred use of the composition that is not to be post-exposure baked instead of the broadest scope of composition set forth. In short, applicants do not set forth a clear definition of what is meant by total acid number with respect to a composition that comprises a polymeric binder. Applicants did not define what is encompassed by polymeric binder. Also, applicants refer to the arithmetic average of individual acid numbers without taking into consideration the actual acid number of the combined polymers. The numbers could be quite different if only a small portion of binder of one or the other was used. Thus, the examiner is unsure what the limits of "polymeric binder" and "total acid number" are in view of their vague description in the specification. See claim 1 as an example of the claim language used throughout the specification. For examination purposes, the examiner has given these terms their broadest reasonable definition. The "polymeric binder" is any one polymer present and the "total acid number" is the acid number of that "polymeric binder". The examiner notes that during patent examination, the pending claims must be "given their

broadest reasonable interpretation consistent with the specification.” In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). While the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); MSM Investments Co. v. Carolwood Corp., 259 F.3d 1335, 1339-40, 59 USPQ2d 1856, 1859-60 (Fed. Cir. 2001). Applicant may be his or her own lexicographer; however any special meaning assigned to a term “must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention.” Multiflow Desiccants Inc. v. Medzam Ltd., 133 F.3d 1473, 1477, 45 USPQ2d 1429, 1432 (Fed. Cir. 1998). See also Process Control Corp. v. HydReclaim Corp., 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). See particularly MPEP 2111. The transitional term “comprising”, which is synonymous with “including,” “containing,” or “characterized by,” is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. See, e.g., Genentech, Inc. v. Chiron Corp., 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed. Cir.

1997) ("Comprising" is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim.); *Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 229 USPQ 805 (Fed. Cir. 1986); *In re Baxter*, 656 F.2d 679, 686, 210 USPQ 795, 803 (CCPA 1981); *Ex parte Davis*, 80 USPQ 448, 450 (Bd. App. 1948) ("comprising" leaves "the claim open for the inclusion of unspecified ingredients even in major amounts").

b. The examiner notes that the compositions and plates of the instant claims comprise the component "a free radical polymerizable system consisting of : "at least one component selected from .... and an initiator system comprising: (a) at least one compound capable of absorbing IR radiation; (b) at least one compound capable of producing radicals; and (c) at least one carboxylic acid ....." Because "comprising" means any other element may be present, the instant composition and plate are not limited to only those components given, but it is not clear what "consisting" means in the instant claims because it is followed by "comprising" language. Thus, the limits of the instant compositions and plates are unclear. Does consisting exclude anything in the instant claim language?. It is unclear because of the mixed use of comprising and consisting in the claim language. Are compounds falling between monomer and oligomer excluded from the free radical polymerizable system or from the IR sensitive composition all together? The transitional phrase "consisting of" excludes any element, step, or ingredient not specified in the claim. *In re Gray*, 53 F.2d 520, 11 USPQ 255 (CCPA 1931); *Ex parte Davis*, 80 USPQ 448, 450 (Bd. App. 1948) ("consisting of" defined as "closing the claim to the inclusion of materials other than those recited except

Art Unit: 1752

for impurities ordinarily associated therewith.”). A claim which depends from a claim which “consists of” the recited elements or steps cannot add an element or step. When the phrase “consists of” appears in a clause of the body of a claim, rather than immediately following the preamble, it limits only the element set forth in that clause; other elements are not excluded from the claim as a whole. *Mannesmann Demag Corp. v. Engineered Metal Products Co.*, 793 F.2d 1279, 230 USPQ 45 (Fed. Cir. 1986). See particularly MPEP 211.03.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5, 9-14, 22-31 and 35-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Hauck et al (WO 00/48836). With respect to instant claims 1-5, 9-14, 22-31 and 35-39, the composition of Example 1 of Hauck et al anticipates the instant composition and plates of wherein AC 50<sup>®</sup> (methacrylic acid copolymer having an acid number of 48 mg KOH/g) is the instant polymeric binder with the required total acid number of less than 70 mg KOH/g, the combination of the urethane acrylate and dipentaerythritol pentaacrylate with the initiator system comprised of 2-(4-methoxyphenyl)-4,6-bis-(trichloromethyl)-s-triazine, anilino diacetic acid, i.e. N-phenyliminodiacetic acid, and 2-[2-[2[thiophenyl-3-[2-(1,3-dihydro-1,3,3-trimethyl-2H-inol-2-ylidene)-ethylidene]-1-cyclohexen-1-yl]-ethenyl]-1,3,3-trimethyl-3H-indoliumchloride making up the instant free radical polymerizable system and Renol Blue B2G HW being the contrast dye additive.



Art Unit: 1752

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-14 and 22-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hauck et al (WO 00/48836) in view of Smothers et al (5,147,758) or West et al (5,776,655 or 5,888,700 or 5,629,354) or Teng et al (6,242,156) or Rousseau (4,228,232) or Takehana et al (5,756,261). With respect to instant claims 1-14 and 22-39, Hauck et al teach all the instant compositions and plates with the exception of using a polymeric binder with an acid number less than 50 mg KOH/g or using a combination of binders wherein the average of the acid numbers is less than 70 mg KOH/g. However, on page 6 of Hauck et al is disclosed the use of all polymer or polymer mixtures known in the art could be used as polymeric binders. Hauck et al does prefer that their binder have an acid number of greater than 70 mg KOH/g but it is not required. Smothers et al, West et al, Teng et al, Rousseau and Takehana et al all teach the use of binders that fall into the range set forth by applicants and are as required by Hauck et al are known polymeric binders to be used in negative photoimageable systems. While West et al are not drawn to infrared initiated systems as such they are drawn to lithographic printing plates imaged with the instant radical initiators and diacid compounds. The West compositions vary in that instead of being sensitized for the infrared they sensitize for the visible or UV systems. Thus, the general teachings with respect to binders are applicable to Hauck et al. Thus, the polymeric binders of 5,776,655 in col. 7 inclusive of polymethylmethacrylate and also disclosed in col. 20

Art Unit: 1752

in 5,888,700 and col. 17 in 5,629,354 of West et al are prima facie obviously used as binders in the printing plates of Hauck et al because they are the "all polymer or polymer mixtures known in the art" required by Hauck et al. Smothers et al in col. 10 teach the use of poly (methyl methacrylate) as optional binder in their plate systems disclosed on page 13. Takehana et al teach the use of binders with an acid number as low as 50 mg KOH/g with their acidic polymerizable urethane acrylates in photocurable systems. Teng et al teach forming infrared sensitive lithographic printing plates and binders inclusive of poly methyl methacrylate which has an acid number of 0 mg KOH/g. In Teng et al, see particularly col. 7, lines 44-col. 8, lines 60. Finally, Rousseau teaches photopolymerizable systems wherein the free radical initiator is inclusive of halide compounds wherein he teaches in col. 9, lines 26-41, that poly alkyl methacrylates are increase the rate or quantum efficiency of double bond conversion of various coatings over such polymers as cellulose acetate butyrate and that in the lines below that not all polymer give a rate increase but that other properties such as solubility, water sensitivity and adhesion must be considered in choosing a polymeric binder for lithographic plates. With respect to instant claims 1-14 and 22-39, the use of binders with no acid value such as poly methyl methacrylate or with an acid value of 50 to 70 mg KOH/g as set forth by Takehana et al in the compositions of Hauck et al would have been prima facie obvious as binders found useful in lithographic printing plates. Applicants have claimed their binders allow plates to be formed without post exposure bake and that their combinations with their specified binders allow the use of less energy or more stable storage or image between exposure and development but there is no showing with the nearest prior art compositions, i.e. the compositions of Hauck et al, or the plates of Teng et al. There is no showing in the instant specification for a binder of an acid number above 9 mg KOH/mg.

Art Unit: 1752

There is no showing using the developer system of Hauck et al in the instant specification. Thus, there is no showing for the scope of binder claimed and there is no showing the compositions of Hauck et al are unstable. The issue of a heating step is not part of the composition or plate claim limits.

8. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weed et al (EP 0 889 363 A1). With respect to instant claims 1-14, Weed et al teach the use of infrared absorbing dyes, halogenated HABI compounds that generate free radicals and n-phenylglycine which fits the instant (c) at least one carboxylic acid compound to polymerize compositions with ethylenically unsaturated compounds and binders inclusive of binders without acid groups.

There is no one working example using these components but each variation is clearly taught as a whole of the compositions disclosed and the compositions are also taught to be used in flexographic printing plates. Thus, with respect to instant claims 1-14, the use of non acidic binders in the compositions of Weed et al with applications wherein development is effected using solvent development with an organic liquid developer or semiaqueous development with a liquid mixture containing water and organic solvents, it is not required that the binder of Weed et al have acid containing functionality such as carboxylic acid functionality. In these cases, all of the comonomers for the binder(s) can be non-acid containing comonomers. In Weed et al, see particularly the paragraph bridging pages 6-7 with respect to the binder being non acidic, and for other points see the Abstract, page 3, lines 48-page 4, lines 5, page 5, Chain Transfer Agent and N-phenylglycine as one of the preferred chain transfer agents, page 6, Binder Polymers, page 9, Preferred Ranges, page 10, lines 36-44, and line 55 to page 12, line 4, Example 31 with attention to use as flexographic printing plate precursor and use of cover layer.

Art Unit: 1752

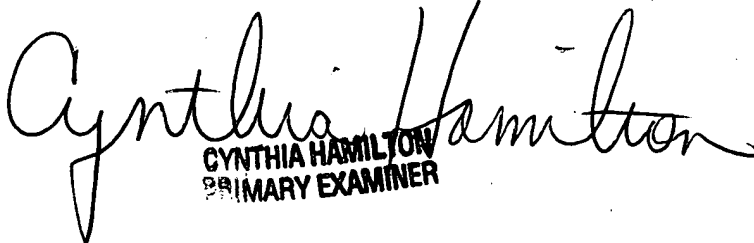
9. Duplicate reference citations have been crossed out on applicants Information Disclosure Statement filed February 25, 2002.

*Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cynthia Hamilton whose telephone number is (703) 308-3626. The examiner can normally be reached on Monday-Friday, 9:30 am to 5:00 pm.*

*If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Baxter can be reached on (703) 308-2303. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.*

*Any inquiry of a general nature or relating to the status of this application should be directed to the 1700 receptionist whose telephone number is (703) 308-0661.*

Cynthia Hamilton  
May 5, 2003

  
CYNTHIA HAMILTON  
PRIMARY EXAMINER